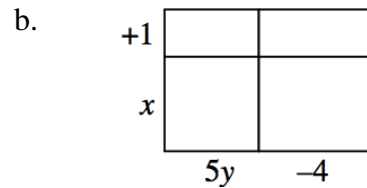
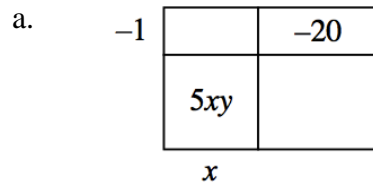


Ch 3 Pretest

Name: _____

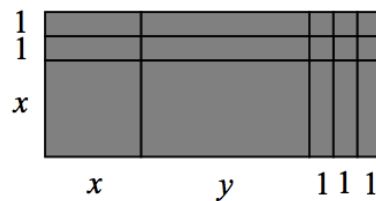
Date: _____ Per: _____

1. Find the missing dimensions (length and width) or area of each part and write the area of the rectangle as a product and a sum.

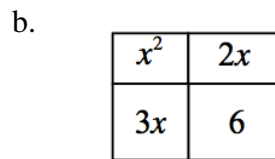
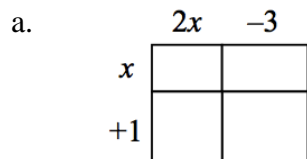


2. Is it true that $(x + 3)^2 = x^2 + 9$? Justify your answer.

3. Write the area of the rectangle below as a product and as a sum.



4. Write an algebraic equation for each figure below to express the relationship, “Area as a product equals area as a sum.”



5. Solve $|2x - 7| = 12$. Be sure to show all of your work.

6. Solve the following equation for x . Use the Distributive Property or draw generic rectangles to help you rewrite the products.

$$(3x - 2)(x + 1) = 3(3x - 4 + x^2)$$

7. Simplify:

a. $\frac{2}{3} ab^3 a^4 =$

b. $\frac{8xy^8}{16y^6} =$

8. Simplify:

a. $(xy^3)(x^2y)=$

b. $\frac{15h^3}{3h^6}=$

9. Simplify:

a. $4x^3 \cdot x^3$

b. $\frac{14w^6}{7w^2}$

10. Simplify:

a. $(5a^4b^3) \cdot (12a^4)$

b. $8x^9 \div 2x^3$

11. Simplify: $\frac{15x^2y}{20xy^2}$

A. $\frac{3x}{4y}$

B. $\frac{3x^3y^3}{4}$

C. $\frac{9}{16y}$

D. $\frac{x}{5y}$

12. Write a number equivalent to x^{-3} using a positive exponent.

13. Which of these is equivalent to 4^{-3} ?

A. $\frac{1}{4} \cdot \frac{1}{4} \cdot \frac{1}{4}$

B. $-4 \cdot -4 \cdot -4$

C. 3^4

D. $-\frac{1}{4} \cdot \frac{1}{4} \cdot \frac{1}{4}$

14. Consider the following statement: “If $n^3 > 0$, then $n^{-3} > 0$. Is this statement “sometimes,” “always,” or “never” true? Why? Give examples to support your reasoning.

15. Consider the expression $\left(-\frac{2}{3}\right)\left(-\frac{2}{3}\right)\left(-\frac{2}{3}\right)\left(-\frac{2}{3}\right)$. What is another way to write this?

A. $-\frac{2^4}{3}$

B. $\left(-\frac{2}{3}\right)^4$

C. $-\left(\frac{2}{3}\right)^4$

D. $\left(\frac{2}{3}\right)^{-4}$

16. Fill in the blank with $>$, $=$, or $<$ to make the statement true: 4^{-8} 4^{-9}

17. Simplify: $\frac{15x^{-2}y}{5xy^{-2}}$